AMENDMENTS TO THE CLAIMS

1-165. (Cancelled)

166. (Previously presented) A membrane comprising an array of at least 10^3 single-wall carbon nanotubes in a substantially parallel relationship, wherein the membrane is nanoporous and wherein the array is a substantially two-dimensional array.

167. (Previously presented) The membrane of claim 166 wherein the membrane is conductive.

168. (Previously presented) A membrane comprising: (a) an array of at least 10^3 single-wall carbon nanotubes in a substantially parallel relationship, wherein the membrane is nanoporous and wherein the array is a substantially two-dimensional array; and (b) at least one photoactive molecule attached to the membrane.

169. (Previously presented) A membrane comprising an array of at least 10^3 single-wall carbon nanotubes in a substantially parallel relationship, wherein (a) the membrane is nanoporous; (b) the array is a substantially two-dimensional array; and (c) at least one of the single-wall carbon nanotubes have ends that are derivatized with a photoactive dye molecule.

170-171. (Cancelled)

172. (Previously presented) A membrane comprising carbon fibers that are aggregates of a plurality of at least 10^6 single-wall carbon nanotubes, wherein the plurality of single-wall carbon nanotubes are in a generally parallel orientation, and wherein the membrane is substantially two-dimensional.

173-176. (Cancelled)

177. (Previously presented) A battery comprising a membrane, wherein the membrane comprises an array of at least 10^3 single-wall carbon nanotubes in a substantially parallel relationship, wherein the array is a substantially two-dimensional array.

178. (Previously presented) The battery of claim 177 wherein the battery is a lithium ion battery.

179. (Previously presented) A battery comprising a membrane, wherein the membrane comprises carbon fibers that are aggregates of a plurality of at least 10^6 single-wall carbon nanotubes, wherein the plurality of single-wall carbon nanotubes are in a generally parallel orientation, and wherein the membrane is substantially two-dimensional.

180. (Previously presented) The battery of claim 179 wherein the battery is a lithium ion battery.

181-188. (Cancelled)

189. (Currently amended) ~~The~~ A membrane ~~of claim 173~~ comprising: (a) carbon fibers that are aggregates of a plurality of single-wall carbon nanotubes, wherein the plurality of single-wall carbon nanotubes are in generally parallel orientation, wherein the plurality of single-wall carbon nanotubes is at least 10^6 single-wall carbon nanotubes and wherein the membrane is a substantially two-dimensional membrane; and (b) at least one dopant physically entrapped between the single-wall carbon nanotubes of the carbon fibers.